INTENDED USE PLAN

Commonwealth of Puerto Rico
Water Pollution Control Revolving Fund
Federal Fiscal Year 2014

Government of Puerto Rico
Environmental Quality Board
October 2014
(Amended)

Clean Water
State Revolving Fund

TABLE OF CONTENTS

List of Tables

1 INTRODUCTION

The Clean Water State Revolving Fund (CWSRF) was established to help finance projects that improves, maintains or protects water quality. CWSRF provided more funds annually to fund water quality protection projects for wastewater treatment, nonpoint source pollution control, and watershed and estuary management.

The Puerto Rico Environmental Quality Board (PREQB) acting on behalf of the Commonwealth of Puerto Rico (Commonwealth) hereby submits to the U.S. Environmental Protection Agency (EPA), an Intended Use Plan (IUP) for federal fiscal year (FFY) 2014, which runs from October 1, 2013 to September 30, 2014. This IUP meets the requirements of Section 606(c) of the Clean Water Act, as amended (the Act).

These requirements of the Act are as follows:

a. A list of those projects for construction of publicly owned treatment works on the Commonwealth's priority list developed pursuant to Section 216 of the Act. Also a list of activities eligible for assistance under Section 319 and 320 of the Act may be provided;

b. A description of the short and long term goals and objectives of the Commonwealth of Puerto Rico Water Pollution Control Revolving Fund (WPCRF);

c. Information on the activities to be supported, including a description of project categories, discharge requirements under Title III and IV of the Act, terms of financial assistance and communities served;

d. Assurances and specific proposals for meeting certain requirements of the Operating Agreement and Capitalization Grant Agreement; and

e. The criteria and methods established for the distribution of WPCRF funds.

To meet the Federal requirements pertaining to reporting on the environmental benefits, PREQB has committed to complete the EPA one page form at time of loan execution, therefore is exempt from providing such information at this time.

This IUP serves as the planning document for explaining the use of monies we expect to be available to the CWSRF through, including: the undrawn balance of Federal capitalization grants and State matching funds; projected repayments; interest earnings from the CWSRF program

equity; and the estimated FFY-2014 Federal capitalization grant and State matching funds. As currently developed, this IUP identifies the specific projects and activities associated with the federal allocations for FFY-2014 Title VI of the Act, as well as the repayment funds.

As of June 30, 2014, the total amount available from loan repayments and interest earnings is $20,898,261.29. The WPCRF project list may include National Estuary and/or Nonpoint Source ("NPS") projects, including groundwater activities.

The FFY-2014 federal allocations under Title VI, as well as the corresponding Commonwealth match are as follow:

Table 1. Federal allocations under Title VI and Commonwealth match.

Federal Fiscal Year	Award Date	Federal Allocation	604 (b) Set Aside	Federal Allotment Less 604(b)	Commonwealth Match	Total	Federal State Proportionality	
							Federal Share	State Share
2014	*	$18,472,000	$185,000	$18,287,000	$3,657,400	$21,944,400	83.3333333%	16.6666667%

* To be awarded by EPA on September 30, 2013 or prior to this date.

In order to assure the state match funds for FFY-2013 and future FFY's, a legislative bill (*Resolución Conjunta del Senado* 219) was approved to authorize PREQB to incur obligations through a revolving line of credit with the Government Development Bank for Puerto Rico (GDB) to a maximum amount of $11,021,200. This legislation orders the Office of Management and Budget (OMB) to include each year, as part of the General Budget of the Commonwealth of Puerto Rico, the spent amount that GDB notify OMB, including interests. This legislative bill became effective on September 12, 2013 and will provide the state match up to state fiscal year 2034.

2 GOALS

As required under the Act, the Commonwealth is to identify the goals and objectives of its Water Pollution Control Revolving Fund.

2.1 Short -Term Goals

The Commonwealth has the following goals and objectives for the WPCRF Program over the short term:

> ***Goal #1****: Establish and manage an effective and comprehensive Water Pollution Control Revolving Fund Program. The Commonwealth outlined six (6) objectives in order to achieve this goal, as shown below:*

Objective 1.A: To develop and implement administrative rules and guidelines for managing the WPCRF program.

Objective 1.B: To develop and implement an annual IUP and prepare and submit along with the IUP an annual application for the capitalization grant.

Objective 1.C: To develop and implement standard operation procedures and policies for managing the WPCRF program.

Objective 1.D: To ensure the use of accounting, auditing and fiscal procedures that conforms to generally accepted government accounting standards.

Objective 1.E: To develop and submit an annual report to EPA covering the accomplishments of the IUP.

Objective 1.F: To maintain updated the historical data on the Clean Water Benefits Reporting System.

Objective 1.G: To diminish the existing Un-liquidated Obligation (ULO's) balances due to open grants.

***Goal #2**: Maintain a self-sustaining revolving loan program through the WPCRF to improve and protect water quality and public health. Associated to this goal are several objectives, which have been achieved, although others are in process.*

Objective 2.A: To ensure and provide low cost financial assistance to all qualified applicants seeking WPCRF loans for wastewater treatment facilities.

Objective 2.B: To coordinate WPCRF activities among PREQB, Puerto Rico Infrastructure Finance Agency (PRIFA) and any qualified loan applicant.

Objective 2.C: To maintain a self-sustaining revolving loan program through PREQB administration.

***Goal #3**: Provide PRASA or other qualified applicants with low-cost financial assistance for necessary wastewater treatment facilities.*

Objective 3.A: To encourage and work with any other qualified applicant to assess financial capabilities and determine the best financial alternatives.

Objective 3.B: To request PRASA submittal of eligible projects that are already in operation for refinancing in order to diminish the existing ULO's situation.

2.2 Long-Term Goals

In addition to these short-term goals, the Commonwealth has the following long-term goals for the WPCRF program:

Goal #1*: Ensure compliance by all publicly owned treatment works with Commonwealth water quality goals and standards and the enforceable deadlines, goals and requirements of the Act.*

Goal #2*: Ensure technical integrity of WPCRF projects by ensuring adequate and effective planning, design and construction management.*

Goal #3*: Maintain an adequate data management system in tracking and monitoring all WPCRF projects and program information.*

Goal #4: *Integrate effectively procedures and guides that facilitate the implementation of sustainable infrastructure to the projects financed by the program.*

Goal #5: *Diminish the amount of open grants agreements to only two.*

3 INFORMATION ON ACTIVITIES TO BE SUPPORTED

Information pertinent to each WPCRF project is contained in Appendix B, which will be submitted by the applicant pursuant to Section 606(c) (3) of the Act. As identified in the Capitalization Grant applications, PREQB intends to use 4% of the grant award for administrative support. Based on WPCRF funds available in FFY-2014, PREQB will use up to $877,776 from the Title VI federal allocation for administrative support for developing, managing and operating the WPCRF program. Appendix C identifies the proposed disbursement schedules for administrative expenses.

Activities related to the implementation of NPS projects, including groundwater control, and the National Estuary program are not included in this IUP at this time, but it may be amended to include them for funding under the WPCRF program.

3.1 Green project Reserve

The provision in the Procedures for Implementing Certain Provisions of EPA's Fiscal Year 2014 Appropriations Affecting the Clean Water and Drinking Water State Revolving Fund Programs

states that: "*Provided*, That for FFY-2014, to the extent there are sufficient eligible project applications, not less than 10 percent of the funds made available under this title to each State for Clean Water State Revolving Fund capitalization grants shall be used by the State for projects to address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities." These four categories of projects are the components of the GPR and define "green" projects.

3.2 Davis Bacon compliance

The Davis-Bacon provision states that: "For fiscal year 2013 and each fiscal year thereafter, the requirements of section 513 of the Federal water pollution Control Act (33 U.S.C. 1372) shall apply to the construction of treatment works carried out in whole or in part with assistance made available by a State Water Pollution Control Revolving Fund as authorized by title vi of that Act (33 U.S.C. 1381 et seq.), or with assistance made available under section 205 (m) of that Act (33 U.S.C. 1285 (m)), or both."

3.3 Energy initiatives

PREQB is seeking to assist all projects receiving CWSRF financing to increase project energy efficiency. The long-term goal of this effort will be to identify energy saving opportunities earlier in the planning process for new projects. By doing so, these opportunities can then be more easily incorporated into the scope of work for CWSRF financed projects. All engineering reports submitted should contain a description of increased energy efficiency features considered in the design documents. The engineering report should also include, where practicable, a present value energy savings analysis of all design alternatives considered, with energy use and cost assumptions clearly identified.

3.4 Bypass Financing

The Commonwealth expects that the projects described in the FFY-2014 project list in Table 4 will proceed in the order as they are listed. However, is for any reason, any of those projects did not proceed; projects included in the FFY-2014 Contingency List (Table 4) may be eligible for CWSRF funds through bypassing. Projects described in the FFY-2014 Contingency List will be considered in the order that they appear. In case the first contingency project is not ready, the Commonwealth will proceed with the next project described in the list and so on.

4 FUNDS AND FINANCING

4.1 Proposed Funding

Applicants whose projects are listed in the CWSRF subsidized funding are eligible for a subsidy as detailed in section 4.3. Of the $1,448,887,000 of appropriation for the CWSRF for the FFY-2014, Puerto Rico CWSRF would receive $18,287,000. This is reflected in this IUP.

4.2 SRF Funds and Repayments

The Federal Fiscal Year 2014 allocation under Title VI, as well as the corresponding Commonwealth match is as follow:

Table 2. Federal Allocation, Commonwealth match and Green Project Reserve

Federal Fiscal Year	Award Date	Federal Allocation	604 (b) Set Aside	Federal Allotment Less 604(b)	Commonwealth Match	Total	Green Reserve Project Amount
2014	*	$18,472,000	$185,000	$18,287,000	$3,657,400	$21,944,400	1,847,200

* To be awarded by EPA on September 30, 2014 or prior to this date.

As of June 30, 2014 an additional $20,898,261.29 of repayments funds are available.

Appendix A identifies the proposed disbursement schedules for using the FFY-2014 funds. The disbursement schedules identify the anticipated amount of and the time over which Federal and Commonwealth funds will be expended from the WPCRF. Appendix B list additional information concerning the WPCRF projects identified above.

For the payment using the EPA Automated Clearing House, PREQB will deposit, on or before the date of payment, an amount equal to 20% of each payment. PREQB will cause the Puerto Rico Infrastructure Financing Authority (PRIFA) to enter into binding commitments in an amount equal to 120% of each payment within one year of receipt of such payment. The binding commitment will be evidenced by a loan agreement executed by PRIFA and the qualified applicants.

Due to previous issues regarding the state match funds availability, on September 23, 2011 an Interagency Agreement was signed to guarantee compliance of Puerto Rico's obligation under Section 602 of the Act and the obligations stated in the Memorandum of Understanding for the CWSRF. Furthermore, on September 12, 2013, a legislative bill was signed to provide such funds

as indicated in Section 1 of this IUP. This will assure that the state match funds will be available before a Grant Agreement is awarded by EPA.

The following sets out the Federal Automated Clearing House payment and Commonwealth match deposit schedule:

Table 2. Federal automated clearing house payment and commonwealth match deposit schedule.

Fiscal Year	Date	Federal Payment	Commonwealth Match	Total
2014	One year after award date	$18,287,000	$3,657,400	$21,944,400

The following summarizes the availability of project funding:

Table 3. Summary of funds available because of the federal Capitalization grants. FFY 2014

I. Sources of Funds			
1	Prior Year Carry Over Funds	+	$ -
2	Current Year Grant (FFY-2014*)	+	$18,287,000
3	Commonwealth Matching Share	+	$3,657,400
4	Repayments to the SRF and Interest Earned from Loans (As of April 30, 2014)	+	$20,898,261.29
5	Other Income to the Fund	+	-
6	Total WPCRF Funds Available	=	$42,842,661.29
II. Uses of Funds			
1	Total WPCRF Funds Available		$42,842,661.29
2	4% Administrative Cost	-	$877,776
3	Available for Projects	=	$41,964,885.29

* To be awarded by EPA on September 30, 2014 or prior to this date.

As identified in the Capitalization Grant applications, PREQB intends to use 4% of the grant award for administrative support. Based on WPCRF funds available in FFY-2014, PREQB will use up to $877,776 from the Title VI federal allocation for administrative support for developing, managing and operating the WPCRF program. Appendix C identifies the proposed disbursement schedules for administrative expenses. The accumulated administrative funds will be used according to "First in-First Out" (FIFO) procedures. In case the administrative funds corresponding to FFY-2014 are not used during the current federal fiscal year, such funds will be banked to be used in future years.

On December 2011, PRIFA opened a new bank account in the amount of $20,721,635.17 to deposit bond proceeds allowing GDB to keep strict accounting of how the money will be drawn when needed. This account assured that all the state match funds from previous fiscal years up to

FFY-2010 were available and identified. For the FFY-2014 state match funds, a legislative bill was signed to provide such funds as indicated in Section 1 of this IUP.

4.3 Additional Subsidization

The Appropriation Act states that "*Provided further*, That not less than 20 percent of the funds but not more than 30 percent of the funds made available under this title to each State for Clean Water State Revolving Fund capitalization grants shall be used by State to provide additional subsidy to eligible recipients in the form of forgiveness of principal, negative interest loans, or grants (or any of the combination of this), and shall be so used by the State only where such funds are provided as initial financing for an eligible recipient or to buy, refinance, or restructure the debt obligations of eligible recipients only where such debt was incurred on or after the date of enactment of this Act, except that for the Clean Water State Revolving Fund capitalization grant appropriation this section shall only apply to the portion that exceeds $1,000,000,000".

The Calculation of the Additional Subsidization for the CWSRF program is as follow:

a. Of the $1,448,887,000 provided by the FFY-2014 Consolidated Appropriations Act, $1,373,793,000 is available for capitalization grants to the 51 CWSRF programs after accounting for the set-asides and territory allocations and rescissions. The additional subsidization provision only applies to $373,793,000 or the portion of the $1,373,793,000 available for capitalization grants that exceeds $1 billion.
b. Nationally, the maximum amount of additional subsidization that may be provided is $112,137,900 and the minimum amount that must be provided is $74,758,600, which is 20 percent of $373,793,000.

The FFY-2014 CWSRF appropriation included authorization to provide additional subsidization, and PREQB intends to offer the maximum amount of $1,492,704 allowable.

4.4 Bypass Financing

PREQB has included subsidy lines in this IUP to identify which projects will likely receive CWSRF subsidized funding. Historically, not all applicants with projects above the subsidy line proceed with their projects. PREQB will "bypass" these funds to other projects within the same category and some applicants with projects below the subsidy lines may become eligible for CWSRF subsidized funding. PREQB will bypass funds to communities with projects listed below

the subsidy line. It is not possible to determine which communities will be reachable for subsidized financing through the bypass process at this time. As such, communities with projects below the subsidy line may wish to consider taking advantage of the SRF Guarantees.

The Commonwealth expects that the projects described in the FFY-2014 project list in Table 4 will proceed in the order as they are listed. However, is for any reason, any of those projects did not proceed; projects included in the FFY-2014 contingency List may be eligible for CWSRF funds through bypassing. Projects described in the FFY-2014 Contingency List will be considered in the order that they appear. In case the first contingency project is not ready, the Commonwealth will proceed with the next project described in the list and so on.

4.5 Waivers

PREQB needs to comply with a minimum of 10% designated to eligible GPR projects. However, if at any time, is determined that it cannot meet the 10% GPR requirement, PREQB may request a waiver from EPA. EPA will review these requests on a case-by-case basis. EPA will use sample actions as a guide when deciding whether to approve or disapprove a State's request for a waiver from GPR.

If EPA approves a State's request for relief from the GPR requirement, then the portion of the GPR for which there are no qualified applications can be used for other conventional, eligible projects. If EPA does not approve a State's request, then the State must continue trying to solicit projects.

However, the PREQB agrees to make a timely and concerted solicitation for projects that address green infrastructure, water or energy efficiency improvements or other environmentally innovative activities. The PREQB agrees to include in its IUP such qualified projects or components of projects that total not less than 10% of its capitalization grant. If the 10% is not reached, the PREQB agrees to conduct additional solicitation, to amend its project list in order to include any such qualified projects thus identified and be able to provide not less than 10% of the FFY-2014 funds available. If there are not sufficient qualified projects or components on the amended project list after such additional solicitation, the PREQB may if necessary submit a waiver request to EPA in accordance with the FFY-2014 Procedures.

5 LISTING OF WATER POLLUTION CONTROL REVOLVING FUND PROJECTS

PREQB shall include a list of eligible projects for receiving funds from the FFY-2014 appropriations and repayment funds under the WPCRF Program. The following is the list of WPCRF projects that are being considered for funding:

Table 4. WPCRF Project funding

Federal Fiscal Year 2014 Funds (Grant & Repayment)*	Project Type	Project Eligible Cost	GPR	Priority List Ranking
Caguas WWTP Improvements – Caguas (C-72-082-02) NPDES No. (PR0025976)	Operation (Refinancing)	$14,628,901	–	3
Israel Bitumul Sanitary & Stormwater System – San Juan (C-72-096-43) NPDES No. (PR0021555)	Design & Construction	$15,950,204	–	10
Toa Alta Heights WWTP Elimination – Toa Alta (C-72-078-03) NPDES No. (PR0023728)	Operation (Refinancing)	$4,772,181	$4,772,181	19
Río Grande Estates WWTP Elimination – Rio Grande (C-72-132-01) NPDES No. (PR0023264)	Design & Construction	$3,353,600	$3,353,600	21
Carolina WWTP Rehabilitation – Loíza (C-72-129-01) NPDES No. (PR0023752)	Design & Construction	$16,000,000	–	23
Vega Baja WWTP Improvements – Vega Baja (C-72-050-09) NPDES No. (PR0021679)	Operation (Refinancing)	$3,410,179	–	31
Aibonito WWTP Improvements – Aibonito (C-72-107-01) NPDES No. (PR0025461)	Design & Construction	$5,000,000	–	33
San Carlos SSS – Dorado (C-72-051-02) NPDES No. (PR0020460)	Design & Construction	$5,958,400	–	34
Bayamón WWTP Improvements – Cataño (C-72-103-23) NPDES No. (PR0023728)	Design & Construction	$3,984,000	–	39
Costa de Oro SSS – Dorado (C-72-051-03) NPDES No. (PR0020460)	Operation (Refinancing)	$3,788,244	–	44
Puente Roto SSS – Barranquitas (C-72-112-03) NPDES No. PR0025861	Design & Construction	$750,000	–	45
Improvements to Arroyo Main Pump Station – Arroyo (C-72-115-01) NPDES No. (PR0025445)	Design & Construction	$5,172,800	–	48
Total		**$82,768,509**		

* The amount of $1,492,704 to be provided as additional subsidization in the form of grant.

The WPCRF project list may include NPS projects and activities once the Commonwealth's NPS Assessment and Management Program is approved and the Priority System is revised to include such projects and activities. Loan repayment must begin within one year after the substantial completion date of the project. The loan term will be up to 20 years, and the interest rate will be 2.0 percent. The binding commitment for the projects included in Table 5 is expected to be executed by September 30, 2015.

6 CRITERIA AND METHODS OF DISTRIBUTION OF FUNDS

On April 21, 2010, new requirements were established regarding the provisions related to GPR and Grants Policy Issuance (GPI) 11-01 – Managing unliquidated obligations and Ensuring Progress under EPA Assistance Agreements. In order to comply with the new requirements set forth in these provisions, PREQB developed a new Priority Ranking System for CWSRF that allows eligible projects to receive funding of the GPR, additions subsidies and gives priority to those projects that are ahead in the planning and design stages. This Priority Ranking System and Project Priority List provide an order of ranking wastewater facilities projects considering ten (10) criteria with its corresponding sub-divisions:

- Project Needs
- Planning
- Critical health problems
- Regionalization/Decentralization
- Compliance and Enforcement (Facilities Under Court Order)
- Water Quality
- Financial Need
- Estuary Management
- Green and/or Sustainable Infrastructure
- Tie breaking

In addition, the following factors were taken into consideration to fund projects:

- request to be by-passed for funding considerations;
- non-compliance of projects with the enforceable requirements of the Act;
- delays of high priority projects because of non-completion of preceding step and funding of lower priority projects if ready for funding.

Similarly, lower priority projects considered to be an essential part of an eligible project may be selected and by pass projects with a higher priority. PREQB will submit shortly the final Priority List in conjunction with the signed Resolution from the Board.

With the approval of the New Permitting Process, Act No. 161 of December 1, 2009, the Puerto Rico Commonwealth permitting process has been substantially modified. These modifications caused a change in the criteria and methods of the distribution of funds described above.

Pursuant to Title VI of the CWA, on September 26, 1991, EPA entered into the State Revolving Fund Operating Agreement with the Commonwealth of Puerto Rico (Operating Agreement). This agreement authorizes PREQB to run the Revolving Fund Program. Under section II.B.2 of the operating Agreement, PREQB is required to "implement and enforce a 'NEPA like' review process for all Section 212 projects [and] to conduct [] activities detailed in the Environmental Review Process [.]

Article 8.5 of the Permitting Process Reform, Act No. 161 of December 1, 2009 states that "….The executive director of the Permits Management Office or the Administrative Board, as correspond, will determine the environmental compliance requirements…." This Act limits PREQB only as an Agency that recommends but does not have the final decision.

Due to time constraints in the availability and duration of funds, the projects included in this IUP are the ones ahead in the design. The new PR Permitting Office is not included in the CW SRF Operating Agreement and PREQB cannot certify this new office has a NEPA like Environmental Review process. At this moment, the new PR Permitting Office is in the process of obtaining approval from EPA for a NEPA-like process as required by the Operating Agreement. In case this process is delayed or take a considerable amount of time, PREQB will consider other projects for receiving FFY-2014 funds. PREQB will keep continuous communication and coordination with EPA regarding any changes to the use of FFY-2014 funds, if necessary.

7 PUBLIC PARTICIPATION

For this IUP, a public participation process was undertaken in accordance with 40 CFR 35.3150. A public hearing was held to review PREQB's Project Priority List and receive comments on the same. Summaries of the public participation process were prepared and made public available. PREQB expects to review all the comments regarding this public hearing by September 2014. After that, the Board will sign a resolution with the final comments and will be provided to EPA for its approval along with the new Priority System.

8 ASSURANCES AND SPECIFIC PROPOSALS

PREQB provides the necessary assurances and certifications as part of the Operating Agreement. This Agreement is the official operating agreement between EQB acting on behalf of the Commonwealth and EPA.

9 REPORTING

9.1 Annual Report

Section 606(d) requires that beginning the first year after receiving payments under the WPCRF, PREQB shall provide an Annual Report to EPA. The Annual Report shall be submitted to EPA within ninety (90) days after the end of the fiscal year covered by the IUP. This report shall identify loan recipients, loan amounts and terms under Title VI of the Act and its implementing regulations and other such information as EPA may require.

9.2 Clean Water Benefits Reporting System

In order to comply with the reporting requirements, information will be entered into the Clean Water Benefits Reporting system (CBR) no less often than quarterly and will include the use of funds for the GPR and additional subsidization as well as project benefits. This information will also be included in the Annual Report to EPA. On May 2012, the PREQB appointed new resources to update historical data in the CBR. Actually, the CBR is up to date.

APPENDICES

9.3 Appendix A

To be submitted shortly

9.4 Appendix B

To be submitted shortly

9.5 Appendix C

PROPOSED DISBURSEMENT SCHEDULE OF FEDERAL AND STATE FUNDS FOR ADMINISTRATIVE EXPENSES (FY 2014)				
Disbursement by Quarters (FY 2014)		**Federal (83.3333333%)**	**State (16.6666667%)**	**Amount**
Fiscal Year	**Quarter**			
2015	4	182,870	36,574	219,444
2016	1	182,870	36,574	219,444
2016	2	182,870	36,574	219,444
2016	3	182,870	36,574	219,444
SUBTOTAL		**$731,480**	**$146,296**	**$877,776**

9.6 Appendix D

Caguas WWTP Improvements – Caguas (C-72-082-02)
The Caguas WWTP is an activated sludge biological nutrient removal (BNR) plant, using the A_2O process, with effluent filtration. Wastewater enters the plant through a 54-inch diameter sewer line. At the headworks, flow is distributed to two parallel channels, each having a mechanically cleaned bar screen. A third channel has a manually cleaned screen to be used as a bypass if one of the other screens is out of service. Flow form the screens is pumped to the degritting facility, which uses four Pista-Grit units to remove grit from the wastewater. The removed grit is concentrated in four grit concentrators/ separators and the effluent from the Pista-Grit units flows to the primary settling clarifiers. Scum from each tank is deposited into scum boxes, from which it is pumped to the primary sludge holding tank. Effluent from the primary settling tanks flows to the BNR system where it passes through three BNR trains, each consisting of an anaerobic, anoxic and aerobic zone. Mixed liquor form the BNR system flows to the four final settling tanks. Settled sludge is either returned to the FST distribution box or wasted to the gravity belt thickeners in the Sludge Handling Building. Secondary effluent flows to four effluent sand filters and the through four chlorine contact tanks. Chlorinated effluent flows through a cascade aerator and then in to the Bairoa River. Non-potable water is taken from the effluent at the chlorine contacts for use with in the plant. Waste activated sludge is thickened in three gravity belt thickeners. This thickened sludge is combined with primary sludge and pumped to three belt filter presses. It will be dosed with lime and hauled off-site for disposal at a landfill.
Israel & Bitumul Community Sanitary & Storm Sewer System – San Juan (C-72-096-43)
The proposed work includes a new storm sewer system which will be constructed in the right-of-way of the existing streets. Catch basins, manholes, sewer pipes, and four new outfalls will be installed, and two existing outfalls will be used. The project area has a population of approximately 1,000 persons and includes 468 residential units in an area of 0.21 sq km. The project includes the installation of approximately 3,561 linear meters of storm sewer varying in diameter from 24 inches to 42 inches. This project will benefit the eight communities around the CPM (G8), with a population of approximately 14,252 persons and 7,847 residential units, and is the first step for the CPM dredging. According to the 2010 United States Census this community has about four hundred fifty-one (451) housing units. The conceptual design of future sanitary sewer system is intended to connect about one hundred eighty-one (181) housing units to the new sanitary sewer collectors on Paseo del Sur project and into the existing San Jose sanitary sewer trunk line. The existing San Jose sanitary sewer trunk line has a pipe diameter of sixty-six (66) inches and collects wastewater from Barrio Obrero, Isla Verde, Hato Rey, Santurce and Trujillo Alto. These wastewaters are discharged into the sanitary PAS Puerto Nuevo. The system-1 will connect about forty-seven (47) housing units discharging into new structure manhole S-12 of the Paseo del Caño Sur project. The design flow is 0.358 MGD discharging into a three hundred and six (306) linear meter sanitary sewer pipeline. The diameter of those subcollectors is eight (8) inches PVC material. The system-2 will connect about twenty seven (25) housing units discharging into existing structure manhole EX-SMF (F-33) of existing 66" diameter San Jose sanitary trunk sewer line. The design flow is 0.206 MGD discharging into a one hundred eighty-seven (187) linear meter sanitary sewer pipeline. The diameter of those subcollectors is eight (8) inches PVC material. The system-3 will connect about sixty-nine (69) housing units discharging into new structure drop manhole D-15 of the Paseo del Caño Sur project. The design flow is 0.567 MGD discharging into a six hundred and eleven (611) linear meter sanitary sewer pipeline. The diameter of those subcollectors is eight (8) inches PVC material. The system-4 will connect about nineteen (19) housing units discharging into new structure drop manhole D-18 of the Paseo del Caño Sur project. The design flow is 0.145 MGD discharging into a one hundred ninety-six (196) linear meter sanitary sewer pipeline. The diameter of those subcollectors is eight (8) inches PVC material. The system-5 will connect about eighteen (18) housing units discharging into new structure manhole S-8 of the Paseo del Caño Sur project. The design flow is 0.067 MGD discharging into a seventy-eight (78) linear meter sanitary sewer pipeline. The diameter of those subcollectors is eight (8) inches PVC material.

Toa Alta Heights WWTP Elimination – Toa Alta (C-72-078-03))
The Toa Alta Heights pump station will replace the Toa Alta Heights WWTP and will be located inside the existing site of the WWTP. This pump station will transfer all the wastewater received by the WWTP to the Van Scoy Trunk Sewer. Once the pump station construction is completed, all the wastewater received by the WWTP will be diverted to the pump station and PRASA will take this WWTP out of service. The discharge pipeline will begin at the new Toa Alta Heights WWTP Pump Station and connect to the Van Scoy Trunk Sewer. The pipeline will be approximately 3 kilometers long. The first section of the pipeline will consist of a sanitary force main and, if possible, the second section will consist of a gravity sewer line. If gravity flow is not feasible, the entire pipeline will work under pressure.
Río Grande Estates WWTP Elimination – Río Grande (C-72-132-01)
The Río Grande Estates WWTP is a 0.75 MGD activated sludge conventional system that serves approximately 2,800 homes. The plant is localized in the Río Grande Estates community, an area under constant flooding events. Due to current system conditions, plant location and new regulations, costs associated to update the plant are not justified, which establishes the plant elimination as the only alternative. The elimination includes the following: 1) Construction of a new Río Grande Estates pump station for wastewater diversion, 2) Plant shut-down demolition of all existing structures, including roofing systems, 3) Closure and backfill of underground tank structures, 4) Installation of new trunk pipes, 5) Improvements to existing sewer pump station.
Carolina WWTP Rehabilitation - Loíza (C-72-129-01)
The project consists of the improvement of the Carolina Regional WWTP. The WWTP is a primary treatment plan that consists of two mechanical and one manual bar screes, five grit chambers, six primary clarifiers, sludge storage and two mechanical dewatering systems, and disinfection system. The first phase of the proposed project consist of: 1) replacement of the mechanical screens, manual bar screen, sludge transfer pumps, belt filter presses and rotary drum thickeners; 2) installation of new conveyor and washer compactor, new mixer, new polymer system for dewatering, new plant control system; and 3) construction of two vortex type grit chambers and walkway in the sludge storage tank. The second phase among other works consists of: 1) Replacement of all six traveling bridge mechanism, 2) Replace the screw conveyors to move sludge to the sludge hoppers, 3) Replace two primary sludge pumps, 4) Replace all six telescoping valves, 5) Provide two new sludge thickeners to receive sludge from the primary clarifiers for sludge settling before pumping to Belt Filter Press, 6) Replace the existing two scum pumps at scum pit, 7) Improvements to the Disinfection system. This project will benefit approximately 300,000 residents in the municipalities of Rio Grande, Loíza, Carolina, San Juan and Canóvanas.
Vega Baja WWTP Improvements – Vega Baja (C-72-050-09)
This project will address various compliance issues and includes the installation of new equipment, re-arrangement of existing piping, improvements to existing pump stations, construction of new process systems to be integrated to existing units and installation of new piping. The project will benefits 12,000 families in the La Granja, Vega Baja Pueblo, Sandín, and Los Naranjos Wards of the Vega Baja Municipality. These improvements will focus on maintaining compliance during peak flow events. The scope of the project includes the following items: 1) Improvement of the degritting units' spill containment area, 2) Replacement of the existing influent fine screens and installation of screening compactors, 3) Provide roof covers to the dry pit area of the pump station, 4) Rehabilitation or replacement of the existing grit classifier unit, 5) Chemical injection systems to comply with TSS and TP effluent limits.
Aibonito WWTP Improvements – Aibonito (C-72-107-01)
The project consider improvements to the tertiary sand filters, in-plant flow recirculation, install scum collectors to the secondary clarifiers, provide adequate access to the aerators, optimize the chemical precipitation system, sludge drying beds' roofs and identifying possible infiltration and inflow point sources along the collection system, among other works.
Bayamón WWTP Improvements – Cataño (C-72-103-23)
This project considers the replacement of the catwalks and gratings; improvements at the screening building, replacement of the six influent pumps, including the MCCs and VFDs, installation of a new inlet valve's actuators and other works to the degritter system; improvements to the existing clarifier traveling bridges and the replacement of the mechanical screens and belt conveyor system, among other works.
San Carlos SSS – Dorado (C-72-051-02)
This project consists of providing a network of collecting sanitary sewers by gravity within the San Carlos community and the improvements to existing sewer facilities required to convey the wastewaters to the Dorado WWTP. The project will include an installation of 8-inch diameter sanitary sewers and SMHs along the streets of the San Carlos community, improvements to an existing pumping station and a new 8-inch diameter force line discharging into the Dorado WWTP. The force line will follow the right-of-way of State Roads PR-696, 6693 and 693. This project will benefit approximately 296 families in the San Carlos community, by providing a safe and reliable sanitary sewer system.

Costa de Oro SSS – Dorado (C-72-051-03)
The proposed sanitary system includes the construction of 8" diameter sanitary laterals throughout the Costa de Oro Community with services connections in each property. A new sanitary pump station with capacity of 250 gallons per minute will be constructed adjacent to an existing storm sewer pump station, which will be abandoned as part of this project. The electrical substation and the control room of the existing storm water pump station will be used for the proposed new sanitary pump station. A prefabricated pump pit with the necessary equipment like pumps, motor control center and e3mergency generator will be installed adjacent to the existing storm pump station. The sanitary pump station will convey the wastewater through a 6" diameter force line up to the existing sanitary trunk sewer along the State Road PR-693 which discharges tot eh Dorado WWTP. The existing. This Project will benefit approximately 750 residents of the Costa de Oro Community. The existing storm sewer system will be improved by the construction of storm sewer culvert that will discharges by gravity to the Sardinera Beach. Improvements include the installation of a new prefabricated box culvert of 3'×6' to discharge by gravity from near the existing storm sewer pump station to the coast with an appropriate headwall at the Sardinera Beach.
Puente Roto SSS – Barranquitas (C-72-112-03)
The Project considers a 2.2 Km. long gravity sanitary sewer along the Road PR-720. The new sewer will collect 52,500 gpd of waste water from approximately 1560 housing units including future population growth and will discharge into the Palo Hincado I Sanitary Pump Station located at the entrance of the community.
Improvements to Arroyo Main Pump Station – Arroyo (C-72-115-01)
This pump is part of the sanitary sewer system that serves the service area of Guayama. This service area includes parts of the Municipalities of Guayama, Arroyo, Patillas and Salinas. Currently this facility has four (4) pumping units with a capacity of 3.410 gpm. PRASA proposes the rehabilitation of the Arroyo Pump Station, which includes enhancements to the structure of the wet and dry pits, installation of a bar screen, changes of pumps and control panels, and improvements in the generator room as well as the electrical controls in the pumping station. Also, the project contemplates the extension of the force line from the Arroyo PS to the Branderí PS with the purpose of eliminating the Branderí PS. Furthermore, this project will divert the sanitary sewer flow direction that came from Urb. Monte Olivo and the facilities of the Regional Office of PREPRA towards the sanitary sewer system at State Road PR-54. This project will benefit approximately 12,000 families.